

Richmond LPS Alert – Reliability

High-Pressure Valve Yoke-Bushing Failure at TKN



I-ERM NLI #: 29547

Location:

TKN Water Wash for E-550,
Richmond Refinery

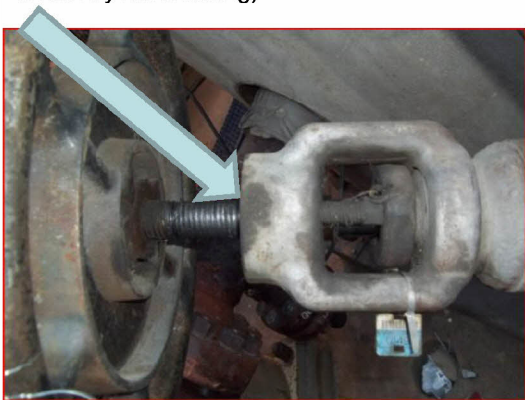
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Edwards Valve used for Water Wash:



Edwards Valve (arrow points to stripped
bonnet/yoke bushing)



**Always remember to do
your LPSA – because
we care about you!**

Incident Description:

On January 13, 2012, after completing a water wash of the E-550 Recycle-Effluent exchanger at the TKN plant, a 3-inch Edwards angle valve malfunctioned while the operator was closing it. The valve was almost closed when the threads of the bonnet/yoke bushing stripped out and allowed the valve to suddenly “snap” to a full-open position under system pressure of 2600 psig. This particular Edwards valve was being used to throttle wash water flow rate to the exchanger and is used about twice a week. A second Edwards valve is already present in this system and was used to complete the isolation of water wash flow.

Immediate Actions Taken:

- 1) Design engineering assessed the Edwards valve in its back-seated condition to confirm the abrupt stem movement did not disturb the packing-to-stem seal.
- 2) Inspections performed radiography and did not observe any obvious deficiencies of the valve internals.
- 3) An investigation is currently in progress. During the next planned shutdown, this valves will be disassembled for a thorough inspection.

Considerations:

1. This incident highlights the critical importance of following Chevron Engineering Standards.
2. Persuaders should not be used to apply excessive force on Edwards angle valves to avoid bending the stem or damaging the yoke bushing.

LOSS PREVENTION SELF-ASSESSMENT

BEFORE BEGINNING ANY ACTIVITY/TASK/JOB, AFTER A LOSS
OR NEAR LOSS, ANY UNUSUAL CIRCUMSTANCES:



ASSESS the risk!

What could go wrong?
What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!

Do I have all the necessary Training and Knowledge to do this job properly?
Do I have all the proper Tools and Personal Protective Equipment?

ACT to ensure loss-free operations!

Take necessary Action to ensure the job is done properly!
Follow written procedures! Ask for assistance, if needed!

DO NOT PROCEED UNLESS ALL RISKS HAVE BEEN ADDRESSED!

For Everyone • Every Day • All the Time

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